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PATENT  
Att'y Dkt.: 2685/5806

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:  
HASKELL, et al.  
Serial No.: 09/814,061  
Filed: March 22, 2001  
For: GENERALIZED SCALABILITY FOR VIDEO  
CODER BASED ON VIDEO OBJECTS

Examiner: A. Bayat

Art Unit: 2621

**DECLARATION OF ATUL PURI**

I, Atul Puri, hereby declare as follows:

1. I am an inventor of the above-referenced patent application currently pending before the United States Patent and Trademark Office. I am informed that the application currently contains claims 46-50, which stand rejected as anticipated by Puri, et al., *Working Draft 1.0 of ISO/IEC 14496-2, ISO/IEC JTC1/SC29/WG11 N1470* (Nov. 1996) (herein, the "N1470" document).

2. My co-inventors and I conceived of the subject matter recited in claims 46-50 and also reduced it to practice by at least July 8, 1996. Evidence of this fact is shown in the attached Exhibits A-C. Exhibit A is a document, authored by myself, my co-inventors and three representatives from Sharp Corporation (Katata, Aono and Ito),<sup>1</sup> that was presented at a July 1996 meeting of the Motion Picture Experts Group ("MPEG") Working Group standards body. Exhibit B is a document, authored only by my co-inventors and me, which was presented at the July 1996 working group meeting also. It describes results of a core experiment performed using the subject matter we proposed in Exhibit A. Exhibit C is a press release generated from the July 1996 meeting, indicating that the MPEG Working Group meeting that occurred July 8-12, 1996.<sup>2</sup> Exhibits A and B were first published at the Tampere meeting.

<sup>1</sup> For convenience, Mr. Katata, Mr. Aono and Mr. Ito are called the "Sharp authors" herein.

<sup>2</sup> The Working Group meeting was held in Tampere, Finland and, accordingly, is called the "Tampere meeting" herein.

3. By July 1996, MPEG Working Group 11 had been convened to define the MPEG-4 standard for compression of video data. Working groups typically operated by soliciting proposals from industry, such as from AT&T or Sharp Corporation, and by having industry representatives evaluate these proposals and determine whether to include them in the MPEG-4 standard. Conventionally, a proposal involved two documents: a first document described the subject matter being proposed and a second document presented results of software prototypes that demonstrated the advantages of the newly proposed technique. Following presentation, members of the Working Group might approve one or more proposed techniques for inclusion in a "verification model" of the MPEG-4 standard. Thus, various verification models were generated as MPEG-4 was developed; these verification models reflected the incremental development of the MPEG-4 standard over time.

4. Exhibit A proposes a scalability syntax for use in the MPEG-4 standard. It was presented to the MPEG-4 Working Group 11 sometime during the Tampere meeting. Exhibit A describes subject matter that was developed by my co-inventors and me. It also describes subject matter that was developed by the Sharp authors. Exhibit B presents results from a core experiment performed upon the portion of the scalability syntax developed by my co-inventors and me. Exhibit D is a copy of MPEG-4 verification model 3, which was generated at the conclusion of the Tampere meeting. It demonstrates that our proposed scalability syntax was adopted for use in MPEG-4.

5. As noted, Exhibit A reflects subject matter developed by my co-inventors and me; it also reflects subject matter developed by the Sharp authors. We have annotated Exhibit A to identify the subject matter that originated from the Sharp authors. Boxes have been superimposed over portions of pages 4-5 (labeled "SHARP") to identify the subject matter that originated from the Sharp authors. All other subject matter presented in Exhibit A was developed by my co-inventors and me.

6. My co-inventors and I conceived of the subject matter recited in pending claims 46-50 before the Tampere meeting, which occurred July 8-12, 1996. For example, the syntax recited in claim 46 is described identically on pages 2-4 of Exhibit A. The `ref_select_code` of claim 49 is described on page 6 of Exhibit A. The `ref_select_code` of claim 50 also is described on page 6 of Exhibit A. Thus, we had conceived of this subject matter by at least July 1996.

7. The subject matter of these claims also was reduced to practice prior to the Tampere meeting. Exhibit B documents a core experiment that we performed upon the proposed scalability syntax. My co-inventors and I developed a software prototype that performed video compression and used the syntax that we developed. This software prototype did not use any syntax elements developed by Sharp. We collected performance data from these tests and reported it to the MPEG-4 Working Group at the Tampere meeting. Thus, we both conceived and reduced to practice the subject matter described in the pending claims.

8. My co-inventors and I had developed the scalability syntax described in our portions of Exhibit A earlier than July 8, 1996; our conception probably occurred on or about May 1, 1996. I have no documentation, however, of our development from this time period. In mid-May and throughout June 1996, we discussed the substance of our scalability syntax with the Sharp authors. In May, we revised our syntax proposals to integrate the Sharp proposal into our syntax. On or about June 1, 1996, we distributed materials describing the revised scalability syntax to Sharp for their review and comment. From June 15 to June 30, we and the Sharp authors each tested the scalability syntax to gather performance data to be reported at the MPEG Working Group meeting. Our tests each tended to focus on the portion of the scalability syntax that originated with us. Thus, my co-inventors and I developed a core experiment that tested the scalability syntax that we developed and the Sharp representatives developed a core experiment that tested their proposal. I presented the results of our core experiment to the MPEG-4 Working Group at the Tampere meeting (Exhibit B). To my knowledge, the Sharp authors presented results from their core experiment separately to the MPEG-4 Working Group at the July 1996 meeting. I no longer have a copy of the Sharp presentation.

9. Our disclosure of the scalability syntax to Sharp prior to the July 1996 meeting was done for two reasons: to jointly develop a syntax proposal to MPEG-4 and to gather experimental evidence regarding the performance of the proposed syntax. We disclosed our proposed syntax only to the Sharp authors. We did not disclose our syntax to anyone else at Sharp Corporation or to any representative from any other company.

10. All the work by my co-inventors and me to conceive and reduce to practice the subject matter claimed in the above-referenced application was done in our offices in New Jersey.

11. The proposal of Exhibit A ultimately was voted upon and accepted for use in the MPEG-4 standard. Exhibit D is a copy of verification model 3 of the MPEG-4, which was voted upon at the end of the Tampere meeting. Our scalability syntax appears throughout pages 51-59 of Exhibit D.

12. The subject matter claimed in the pending application had thus been conceived and reduced to practice in the United States by my co-inventors and myself prior to July 1996.

I, Atul Puri, declare that all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true and that all statements made herein are made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. § 1001) and may jeopardize the validity of the application or any patent issuing thereon.

Date: September 20, 2002

*Atul Puri*

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Atul Puri